



PATIENT

Mooi Nguyen

PRESENTING CLINICAL SIGNS

vomiting 1-3x a day, anorexia, losing weight. no defecation since 9/19.

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: increased ALP, GGT and ALT normal CPL

BREED

Boston Terrier

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall largely appears normal but is mildly thickened apically, measuring 0.48 cm with a smooth mucosal surface. There is no evidence of mass lesions or calculi in the area of the trigone, ureteral papillae or proximal urethra.

SEX

Spayed Female

The left kidney has a normal shape and size (4.54 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

AGE

10 Years

The right kidney has a normal shape and size (4.92 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

WEIGHT

7 kg

Adrenal Glands

The left adrenal gland is normal in size measuring 0.60 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

INTERPRETED BY

Kathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

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Dr. Laura de Cordon

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

HOSPITAL NAME

Mason Dixon Animal
Emergency Hospital

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

REFERRING VET

Dr. Laura de Cordon

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

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Gastrointestinal

The stomach contains minimal luminal contents. The stomach wall appears prominent with intact layering, measuring at 0.42 cm. There is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

DATE

9/23/22



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The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.53 cm. Jejunum wall measures 0.33 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

SPECIES

Canine

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

BREED

Boston Terrier

Pancreas

The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

SEX

Spayed Female

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There are occasional hypoechoic large lymph nodes visualized in the abdomen. A pancreaticoduodenal lymph node measures 0.55 cm. A hepatic lymph node measures at 0.74 cm. A lymph node medial to the body of the spleen measures at 1.05 cm x 2.06 cm. The mesentery is hyperechoic in the cranial abdomen.

AGE

10 Years

ULTRASONOGRAPHIC FINDINGS

WEIGHT

7 kg

- Mildly thickened apical bladder wall – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.

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- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.

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- Mottled, prominent pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

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- Mesenteric lymphadenopathy – The moderate mesenteric lymphadenopathy is most concerning for a neoplastic process, although you can see significant lymphadenopathy in some cases of autoimmune/inflammatory disease, infectious disease (tick born disease-such as bartonella, fungal infections, FIP (cats)) etc. A fine needle aspirate with cytology is recommended for further evaluation. These lymph nodes are not especially large but are hypoechoic and abnormal in appearance.

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- Prominent, subjectively thickened gastric wall with intact layering – The stomach wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, imaging artifact due to rugal folds, other.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver and gallbladder. Depending on the liver enzyme elevations present, consider the following recommendations:

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If no response to supportive care (Denamarin, fluids, antibiotics, +/- ursodiol etc.) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

Additionally, there are some prominent lymph nodes in the abdomen. If possible, consider a fine needle aspirate, particularly of the larger caudal abdominal lymph node. If a cytologic diagnosis cannot be obtained based on cytology of the liver and a lymph node, biopsies may be need to be considered.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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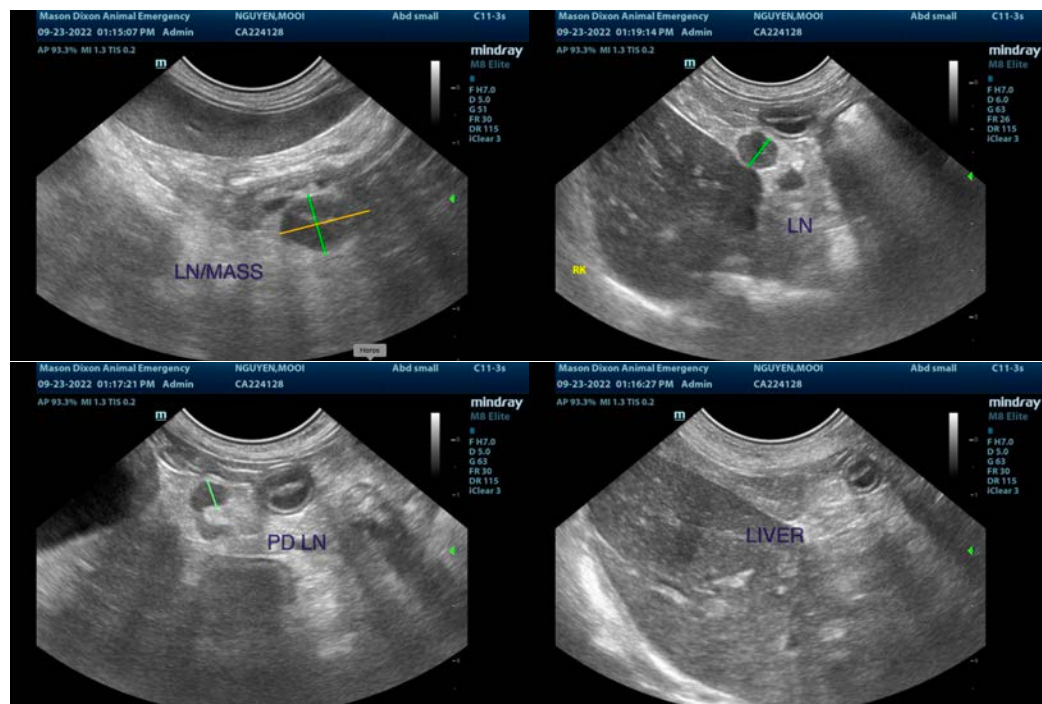
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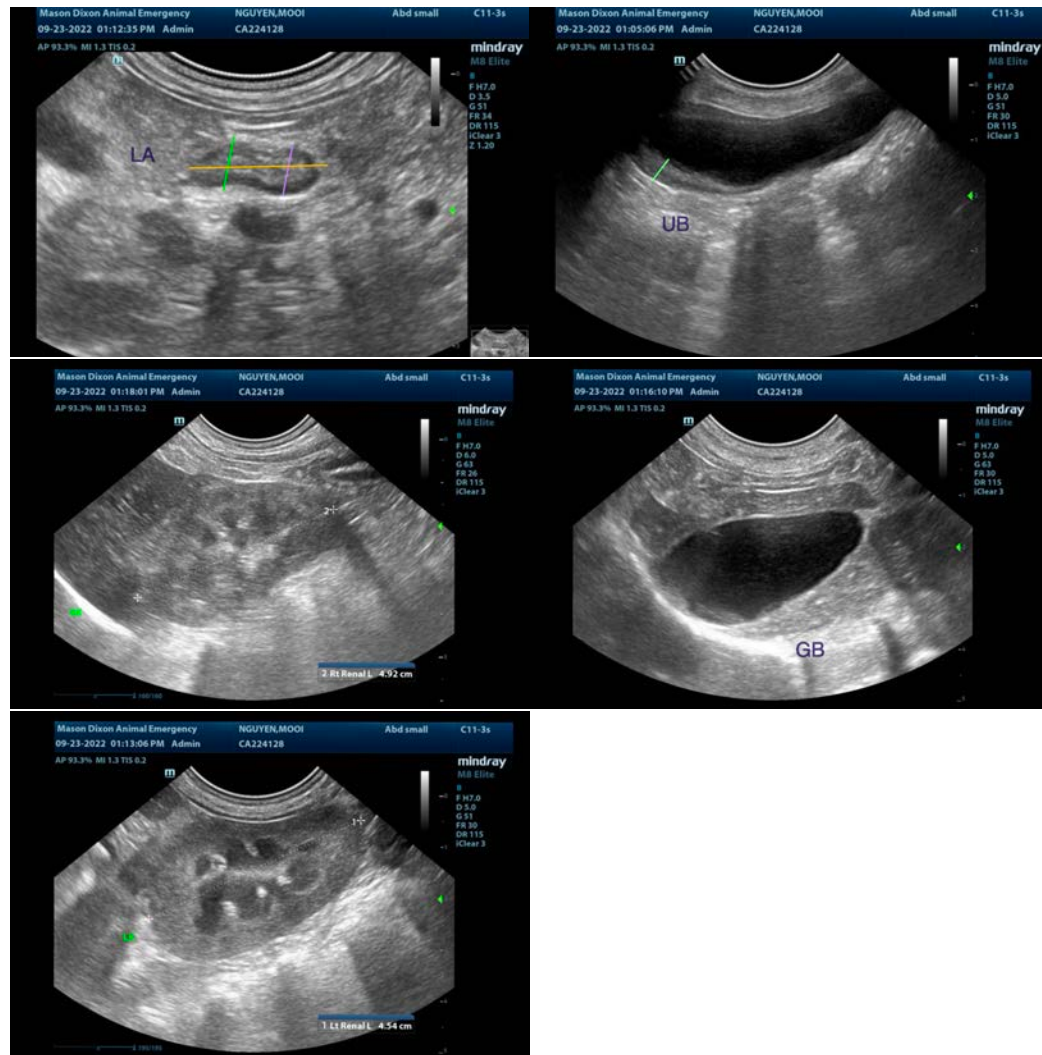
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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